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A new species of *Horaga* Moore (Lepidoptera, Lycaenidae, Lycaeninae, Theclini), with a key to the species of the subtribe Horagina*

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Abstract A new lycaenid species, *Horaga uedai* sp. nov., is described from Laos and compared with the closely related species, *H. rarasana* Sonan. In particular, the wing markings and genitalia of adults of both species are morphologically examined and illustrated. The distribution of the two species is briefly discussed from a biogeographical point of view. A key to the species of the subtribe Horagina is also proposed.

Key words Biogeography, *Horaga*, *Horaga rarasana*, *Horaga uedai* sp. nov., Lepidoptera, Lycaenidae, Laos, taxonomy.

Introduction

The genus *Horaga* Moore, 1881 (Lycaenidae, Lycaeninae) presently comprises 13 species occurring in tropical to temperate zones of the Indo-Australian Region (Cowan, 1966; D'Abrera, 1978, 1986; Eliot, 1986; Bridges, 1988; Corbet & Pendlebury, 1992; Parsons, 1999; Osada, 2001; Schroeder *et al.*, 2001). This genus together with monotypic *Rathinda* Moore, 1881 belongs to the subtribe Horagina of the tribe Theclini. This subtribe is characterized by the lobed hindwing with filamentous tails at veins 1b, 3 and 2, that at 2 being the longest, and by the disproportionately large male genitalia with horned valvae, flattened or hollowed blade-like socii and long, basally incorporating and specialized falces (Cowan, 1966; Eliot, 1973). However, *Horaga* may be distinguished from *Rathinda* by the following character states: 1) hindwing upperside lacking red submarginal markings, 2) underside ground color more or less uniform and markings simple (not intricately patterned), 3) male genital falces asymmetrical, each lacking a median spine, and not excessively long (hardly reaching bases of valvae) (Cowan, 1966; Eliot, 1973).

A Taiwanese endemic species with unusual wing markings, *Horaga rarasana* Sonan, 1936, is the largest known member of the genus (Shirôzu, 1960). This species has a white ground color and brownish discal markings on the underside of the wings, whereas the other species of *Horaga* have a dark ground color and whitish discal markings. Recently, I had the opportunity to borrow 14 specimens of a species of *Horaga* collected in Laos, from Dr Shunsuke Ueda and Mr Sadayuki Morita. This species was quite similar to *H. rarasana* in general appearance. However, after careful examination of the wing markings and the genitalia in both sexes, I reached the conclusion that it is an undescribed species.

In this paper I describe this new species and make a morphological comparison of this species with the very similar species, *H. rarasana*. Possible biogeographical implications arising from the situation of the two species are also briefly discussed. Further, I provide a key to the species of the subtribe Horagina based on wing markings and genitalia.

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Materials and methods

The materials examined in this work are dried adults. The data and depositions of the types are mentioned under the description. They were from the collections of Dr S. Ueda, Mr S. Morita, the Biosystematics Laboratory, Kyushu University (=BLKU), and the author.

For the wing markings of the underside, I adopt the system proposed by Schwanwitsch (1949), but E^3 of the hindwing includes not only the outer black lines but also the inner brownish band. The submarginal area of the hindwing irrorated with silver scales is interpreted as spaces between E^2 and E^3. The cells 1' and 1 in his system are treated as cells 1a and 1b+c, respectively. Orientation of the wings is abbreviated as follows: upperside=Up, underside=Un, forewing=F, hindwing=H. Terminology of the male genitalia follows Shirôzu (1960), except for the substitution of falx for brachium, and that of the female genitalia follows Shirôzu & Yamamoto (1956), Kawazoé & Wakabayashi (1976) and Hirowatari (1986). For the observation of genitalia, abdomens were placed in a 5% KOH solution at about 50°C for 3-5 hours, then treated in 2% acetic acid. After this treatment, they were washed with distilled water and placed in 80% ethanol for dissection and observation. Chlorazol black E or Delafield's hematoxylin were used to stain the KOH-treated integument. They were examined and illustrated under stereoscopic microscopes Olympus SZ60 and Leica MZ8 with magnification up to ×189.

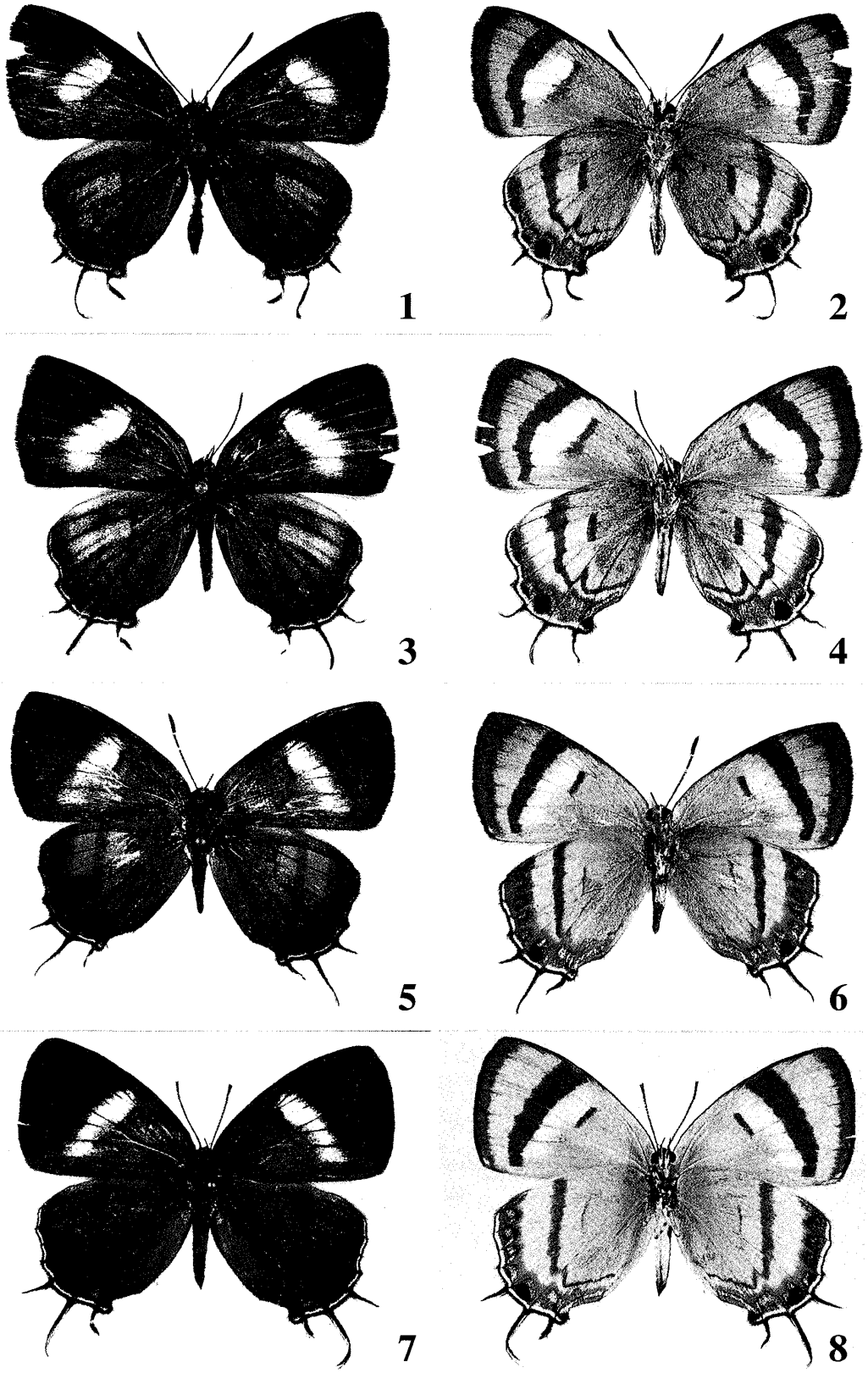
Description

***Horaga uedai* sp. nov.** (Figs 1-4, 9-14, 21)

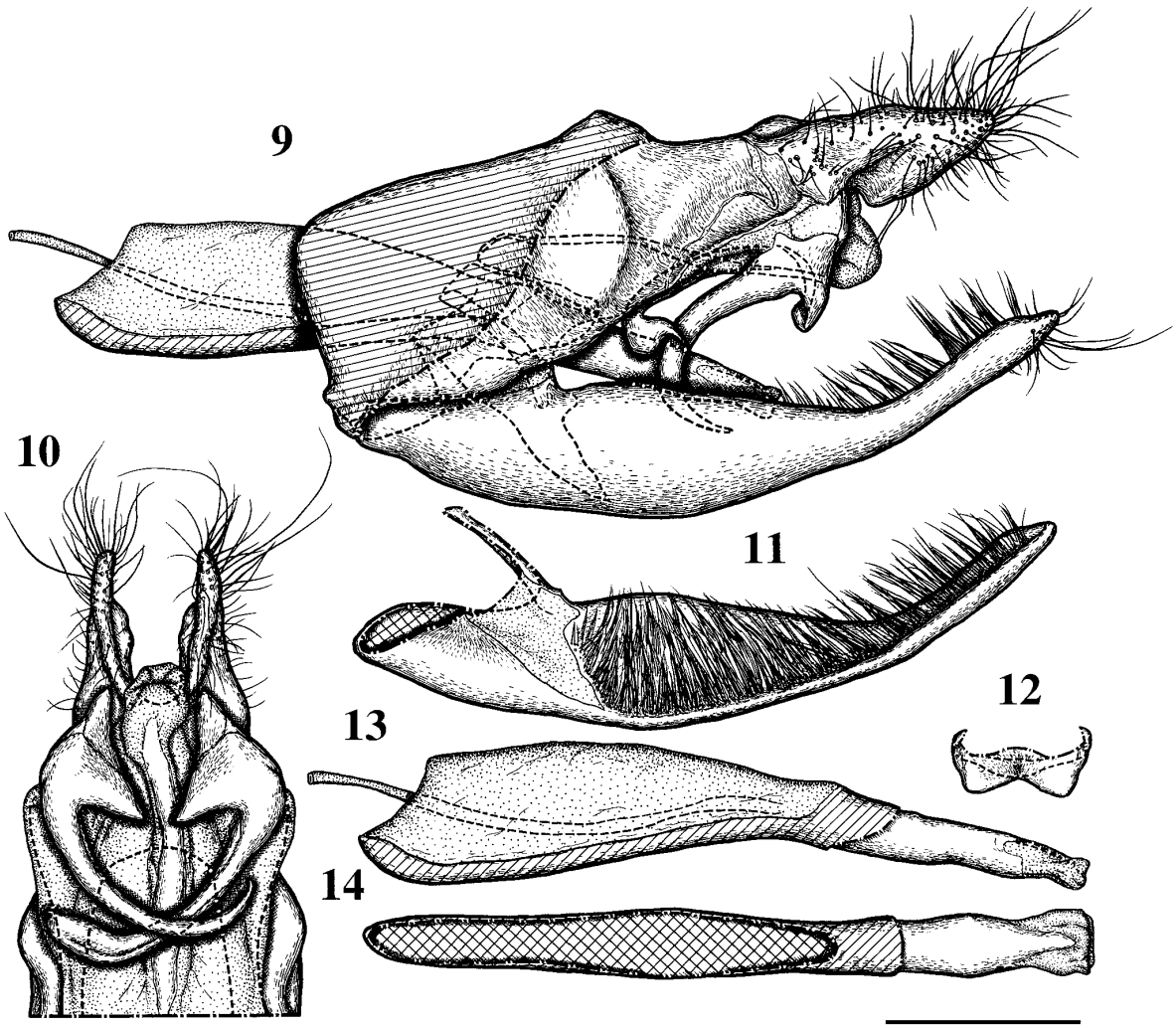
Diagnosis. Up blackish-brown, UpF with elliptical, white discal patch, UpH with at least powdered white scales on anterior half; Un white with brownish discal bars and post-discal bands; H with three filamentous tails.

Male. Head, thorax and abdomen (Figs 1, 2): Similar to congeners. Eyes bare. Antenna black- scaled, narrowly white-scaled on basal portions of flagellomeres and tipped with dark orange; club cylindrical and gradually swollen; length of antenna 7.8-8.6 mm (n=10). Labial palpus long, about 2× as long as head, third segment about 1/3 as long as second segment. Thorax and abdomen clothed dorsally with many brown scales and hairs, and ventrally with many whitish scales and hairs. Fore-tarsi fused into single segment ending in a stubby-tip with minute hairs and spines.

Wings (Figs 1, 2). F with 10 veins and triangular in shape; costal margin almost straight, faintly curved near apex, more or less arched near base; apex weakly angulated; outer margin weakly curved; inner margin almost straight. H with filamentous tails at veins 1b, 3 and 2, that at 2 the longest; costal margin strongly arched on basal 1/3, almost straight on distal 2/3, and slightly longer than inner margin; outer margin rounded, but concave from veins 4-6; inner margin somewhat arched, rather strongly curved near anal angle; anal angle developed. Length of F: 16.2-17.0 mm (n=10). Length of tail at vein 2: 6.0-6.8 mm (n=10). UpF blackish-brown with elliptical, white discal patch extending from vein 2 (occasionally extending up to cell 1b+c) to vein 7 or 10, 2.1-2.8 mm in transverse length (n=10), 5.0-6.2 mm in longitudinal length (n=10); fringe consisting of inner short blackish and outer long brown scales, mixed with many long white scales at outer margin of cells 1a and 1b+c. UpH blackish-brown as on UpF, with white scales usually sparsely (occasionally densely) frosted in cells 4-6; whitish area extending to basal 2/3-3/4 of cell 4, basal 3/4 of cell 5, and central 1/3-1/4 of cell 6; fringe consisting of inner short blackish and outer long

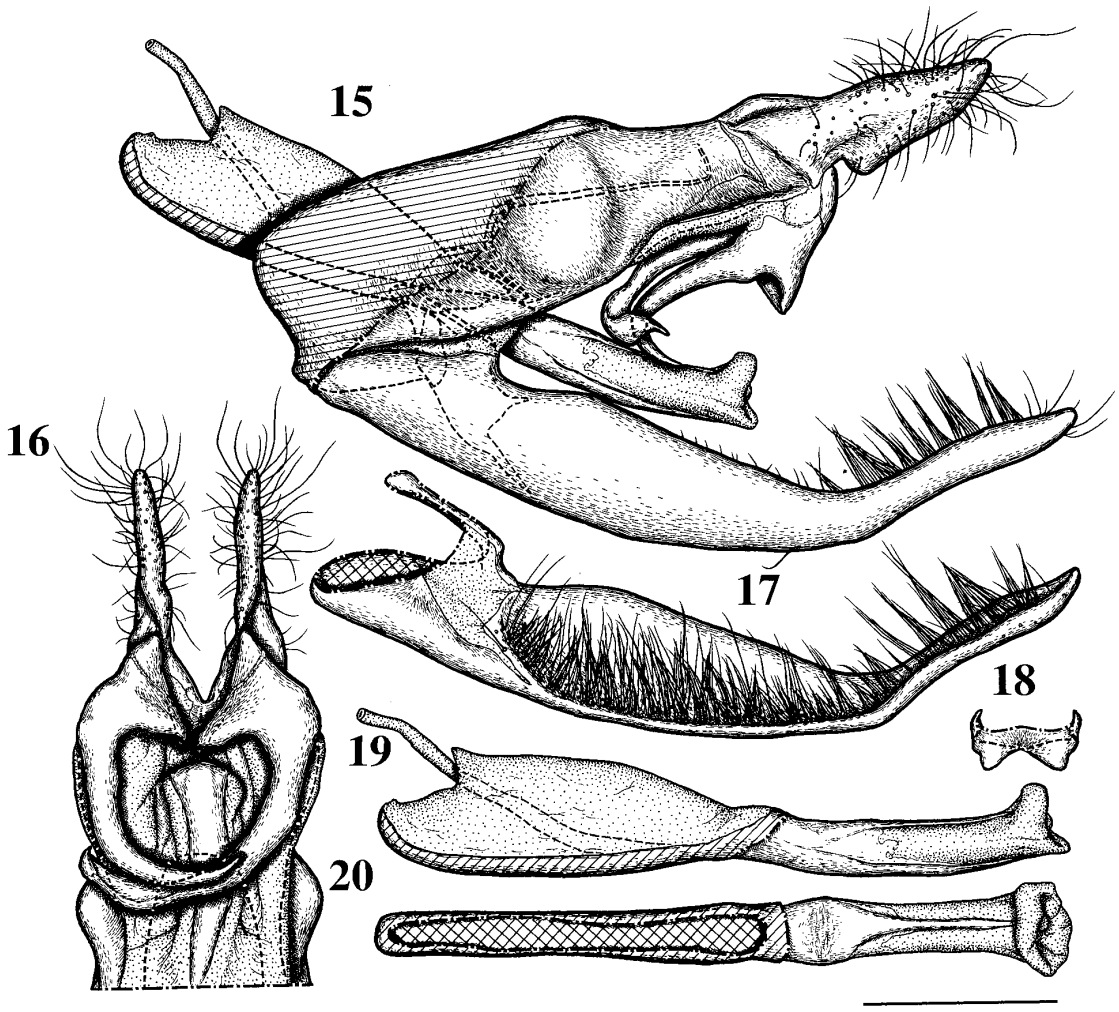


Figs 1–8. *Horaga* spp. 1–4. *H. uedai* sp. nov. 1. Holotype ♂, upperside. 2. *Ditto*, underside. 3. Paratype ♀, upperside. 4. *Ditto*, underside. 5–8. *H. rarasana* Sonan. 5. ♂, upperside. 6. *Ditto*, underside. 7. ♀, upperside. 8. *Ditto*, underside.



Figs 9–14. Male genitalia of *Horaga uedai* sp. nov. Scale bar 0.7 mm. 9. Genitalia as a whole, lateral view. 10. Dorsum, ventral view. 11. Right valva, lateral view. 12. Juxta, dorsal view. 13. Phallus, lateral view. 14. *Ditto*, dorsal view.

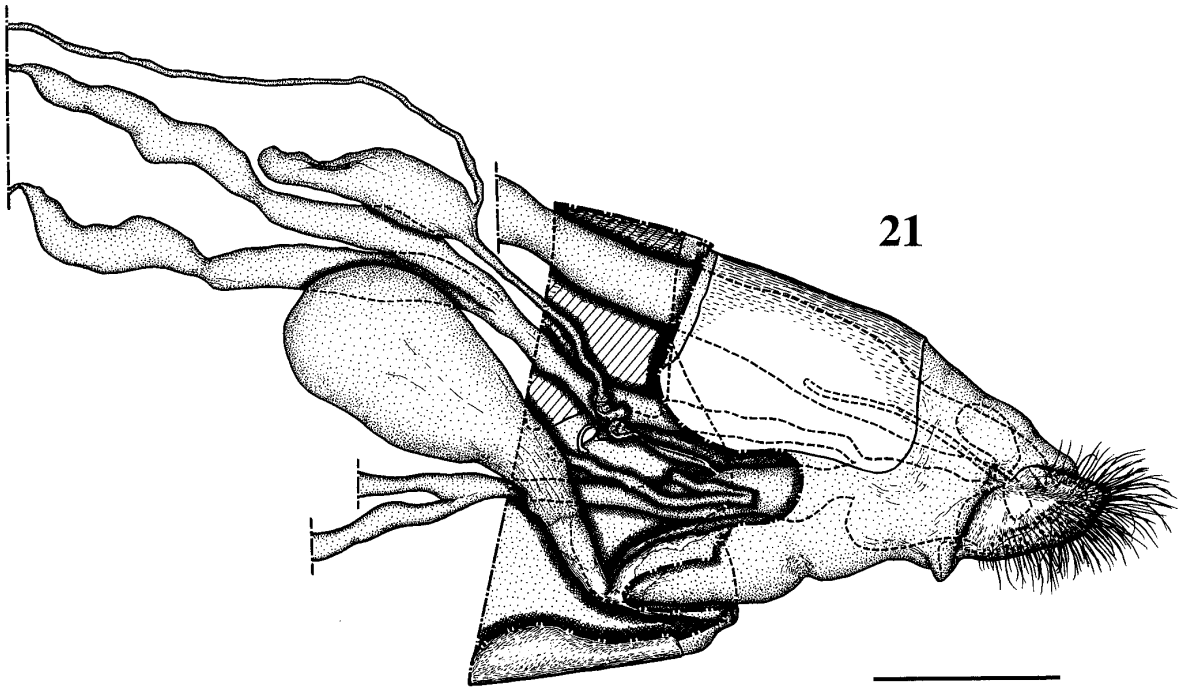
whitish scales, latter somewhat darker at tip of each vein and toward anal angle. UnF whitish in ground color; basal half of cells 1a and 1b+c whitish-gray, with oval brand astride vein 1b+c; D^1 (discocellular bar) recognizable as distinct blackish-brown line; M^1 (post-discal band) blackish-brown and appearing as arc-shaped band extending from cells 1b+c to 11; E^3 (submarginal band) entirely fused with E^2 (inner marginal line) and E^1 (outer marginal line) and represented by broad blackish-brown line along outer margin; fringe as on UpF. UnH whitish in ground color as on UnF; D^1 discernible as distinct brown bar; M^1 appearing as blackish-brown band irregularly arched, gradually widened from cell 1a to cell 8, and strongly inwardly shifted on vein 2 and weakly in cells 4 and 5; E^3 appearing as obscure brown band, black-bordered outwardly, arranged almost parallel to outer margin, shifted inwardly in cells 1b+c and 2; silvery blue lunules between E^2 and E^3 extending from cell 1a to cell 5 or 6 and particularly widened inwardly in cells 1b+c, 2 and 3; E_2 represented by semicircular blackish spot in each cell, largest in cell 2, suffused with white scales in cell 1b+c and connected with white marginal line; width of blackish spot in cell 2 1.4–1.8 mm (n=10); white marginal line between E^2 and E^1 very slender, parallel to outer margin and extending from anal angle to cell 6; E^1 appearing as narrow black line along

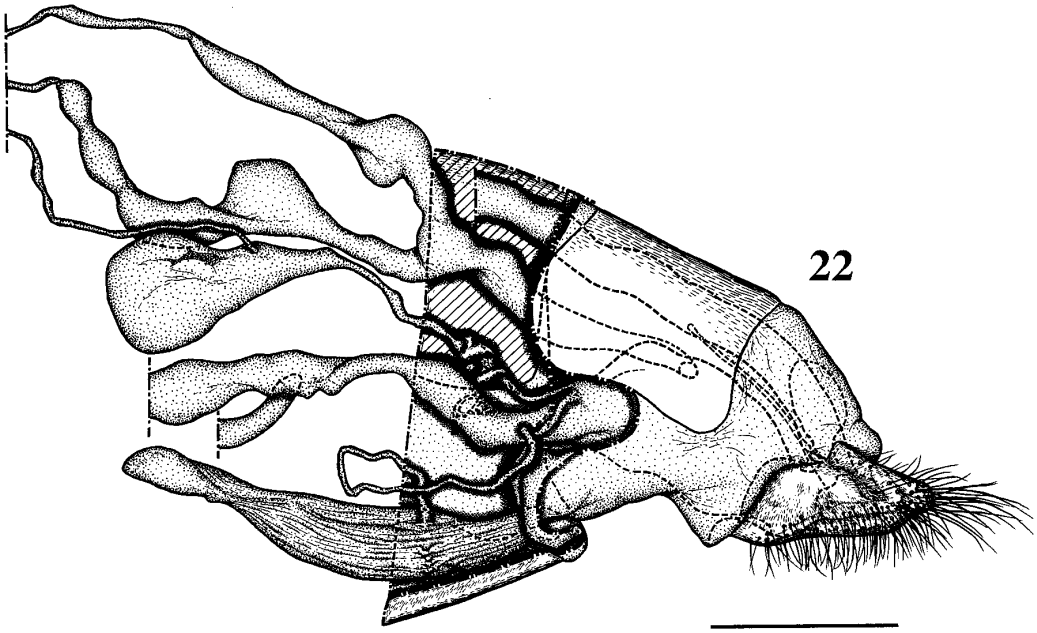


Figs 15–20. Male genitalia of *Horaga rarasana*. Scale bar 0.8 mm. 15. Genitalia as a whole, lateral view. 16. Dorsum, ventral view. 17. Right valva, lateral view. 18. Juxta, dorsal view. 19. Phallus, lateral view. 20. *Ditto*, dorsal view.

distal edge of marginal white line; fringe as on UpH.

Male genitalia (Figs 9–14). Disproportionately large as a whole. Ring strongly inclined posteriorly, in lateral view anterior margin widely produced into triangular plate at ventral 1/3. Tegumen broad and strongly extended posteriorly. Socius flattened, blade-like, slightly shorter than half of ring height and sparsely covered with longish hairs above, in lateral view triangular and directed posteriorly, in ventral view slender, almost parallel to opposite socius, tapered apically and pointed at apex. Vinculum very broad, rapidly narrowed ventrally. Saccus absent. Falces long and asymmetric; left falx broad basally, with triangular inner-process near base, then evenly slender, extending anteroventrally from subbasal to middle portions, strongly curved inwards on middle, hardly reaching bases of valvae, hooked and pointed at apex; right falx similar to left one but spatulate on apical portion. Valva very long and slender, about 2× as long as ring height, in lateral view somewhat broad from basal to middle portions, tapered and weakly curved from middle to subapical portions and ending in digitate lobes; inner surface of valva covered with many longish hairs above. Phallus moderately long and slender, about 2× as long as ring height; suprazonal portion almost straight, shorter than half of subzonal portion and gradually





Figs 21–22. Female genitalia of *Horaga* spp., lateral view. 21. *H. uedai* sp. nov. 22. *H. rarasana*. Scale bars 1.0 mm.

tapered on apical portion; perivesical area occupied on apical 1/3 of both sides of suprazonal portion; cornutus absent; subzonal portion in lateral view almost straight from apical to subbasal portions and curved dorsally on basal portion. Juxta small and undeveloped, about 1/5 as long as ring height, in dorsal view flattened dorsally, slightly concave on dorsocentral region and produced posteriorly into pair of small triangular processes 1/3 as long as total length of juxta; lateral portion of juxta slightly produced into flexed projection; ventromedian projection of juxta very short. Length of male genitalia

excluding phallus: 2.7-2.8 mm (*n*=3).

Female. Similar to male but differing as follows. Head, thorax and abdomen (Figs 3, 4): Length of antenna 8.3-8.5 mm (*n*=4). Fore-tarsi bearing pair of movable lateral claws.

Wings (Figs 3, 4). F and H larger than male as a whole and somewhat expanded laterally; outer margin on F and H more strongly curved. Length of F: 19.0-19.2 mm (*n*=4). Length of tail at vein 2: 6.7-7.0 mm (*n*=4). White discal patch on UpF larger and extending from anterior 2/3 of cell 1b+c to vein 10, 3.5 mm in transverse length (*n*=4), 8.4-8.5 mm in longitudinal length (*n*=4).

Female genitalia (Fig. 21). Lodix nearly pentagonal, about as long as 8th abdominal tergum. Apophysis anterioris absent. Eighth tergum trapezoidal, slightly narrowed posteriorly; length of 8th tergum 1.2-1.3 mm (*n*=2). Genital plate hardly developed, smooth and weakly sclerotized near ostium. Ostium bursae weakly sclerotized and opened on anterior portion of genital plate. Intersternal pouches on both sides of ostium deep, widened and weakly sclerotized from anterior to dorsal portions. Bursa copulatrix consisting of slender ductus bursae and oval corpus bursae; length of bursa copulatrix (from ostium to distal portion of corpus) 2.3-2.4 mm (*n*=2). Ductus bursae hemi-cylindrical, inclined dorsally, weakly sclerotized on posterior half and nearly 1/2 as long as 8th tergum; dorsal surface of ductus bursae deeply and longitudinally concave; length of ductus bursae 0.5 mm (*n*=2). Corpus bursae large, directed anteriorly, slightly longer than 8th tergum, evenly narrowed on proximal 1/4 and spherically swollen on distal 3/4, of which diameter is about 3/4 as long as 8th tergum; signa absent. Ductus seminalis rather thick, arising from dorsal portion of subbase of corpus bursae and attached to cephalic portion of vestibulum. Vagina relatively small, long oval in lateral view; vestibulum small and weakly differentiated. Duct of spermatheca arising from just posterior portion of opening point of ductus seminalis; ductus receptaculi spiral and strongly sclerotized. Duct of glandulae sebaceae opening into anterodorsal portion of vagina. Pair of saccate constructs (glands?) present near ostium oviductus. Papilla analis oval in lateral view, more strongly sclerotized on basal 2/3 and bearing many setae of various lengths on apical half; apophysis posterioris long, about as long as 8th tergum, apical portion slightly widened.

Geographical distribution (Fig. 23). At present, this species is only known from the type locality area in the northeast of Laos.

Specimens examined. Holotype. ♂ (Figs 1, 2), 8. v. 2002, Phoo Pan, Xam Neua, Laos [Kham Boune leg.] (BLKU). Paratypes. 1♂1♀ (Figs 3, 4), 7. v. 2002, Phoo Pan, Xam Neua, Laos [Kham Boune leg.], (S. Ueda collection & BLKU); 4♂1♀, 8. v. 2002 (S. Ueda collection); 2♂, 14. v. 2003 (S. Morita & M. Yago collections); 2♂, 15. v. 2003 (S. Morita & S. Ueda collections); 1♀, 17. v. 2003 (S. Morita collection); 1♀, 19. v. 2003 (S. Ueda collection).

Etymology. The specific name, *uedai*, is dedicated to Dr S. Ueda who offered me the type specimens of the new taxon for this study.

Discussion

The present new species is assigned to the genus *Horaga* of the subtribe Horagina because it has all character conditions mentioned in the introduction of this paper. In general appearance, this species is very similar to *H. rarasana* in having very large wings (the largest among *Horaga*) and a white ground color with brownish post-discal bands (M^1) on the Un (Figs 2, 4, 6 and 8). In particular, the latter condition may be apomorphic in respect

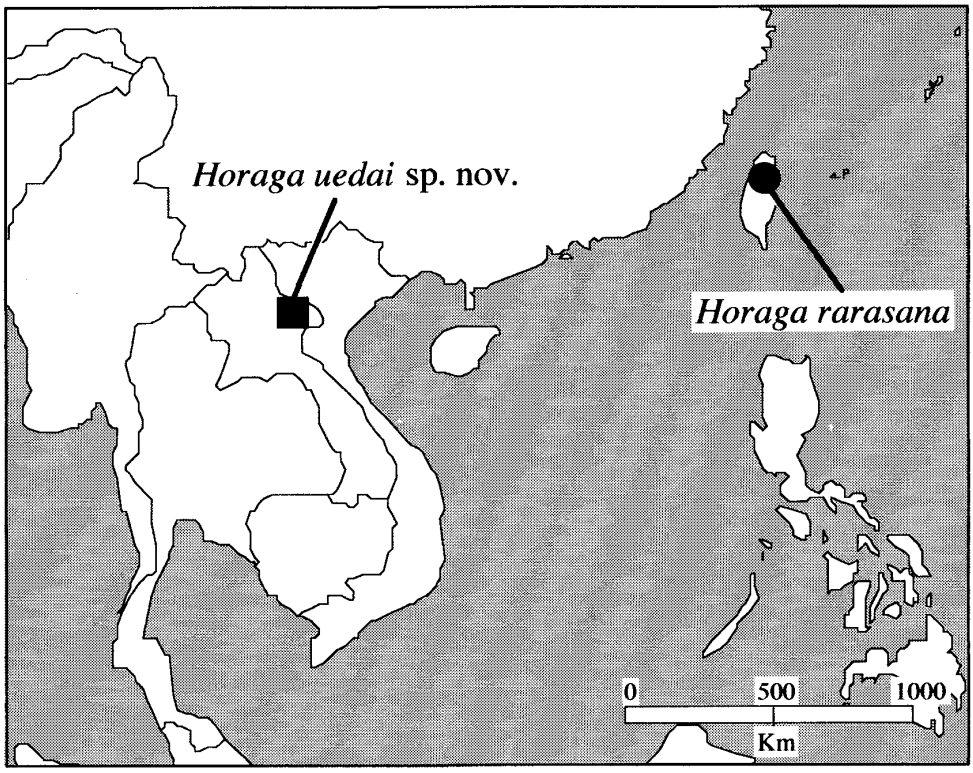


Fig. 23. Geographical distribution of *Horaga uedai* and *H. rarasana*.

to the other species of *Horaga*, since this striking feature has not been observed in other species of Horagina or its allied subtribes, Loxurina and Cheritrina (Shirôzu, 1960; Cowan, 1966; Scott & Wright, 1990; Corbet & Pendlebury, 1992). A seasonal form of *Rathinda* shows a superficially similar color pattern on the Un, but it has partially brownish (or orange) ground color and quite different patterns of wing markings, which comprise intricate undulating lines and bars, so the color pattern is presumably a parallelism. Thus, *H. uedai* and *H. rarasana* are considered a sister-group pairing. The new species is distinguished from *H. rarasana* as follows: 1) anterior half of male UpH lacking purplish area (Figs 1, 5); 2) anterior half of male and female UpH with white-frosted area (Figs 3, 7); 3) post-discal band (M^1) on UnF more strongly arched (Figs 2, 4, 6, 8); 4) blackish-brown discocellular bar (D^1) on UnH prominent (Figs 2, 4, 6, 8); 5) post-discal band (M^1) on UnH irregularly arched (Figs 2, 4, 6, 8); 6) UnH with brown submarginal band, while *H. rarasana* bears a yellowish band (Figs 2, 4, 6, 8); 7) male genital socius more widened (Figs 9, 15); 8) male genital vinculum broader (Figs 9, 15); 9) male genital valva longer and more strongly curved from middle to subapical portions (Figs 11, 17); 10) suprazonal portion of male genital phallus distinctly shorter (Figs 13, 14, 19, 20); 11) female genital ductus bursae slender, weakly sclerotized posteriorly and differentiated from corpus bursae (Figs 21, 22); 12) female genital corpus bursae large and oval (Figs 21, 22); 13) female genital ductus seminalis thicker (Figs 21, 22); 14) papilla analis somewhat smaller (Figs 21, 22).

In a recent study of *Horaga*, Sidhu & Rose (1997) examined in detail the female genitalia of only two species, *H. onyx* (Moore, 1858) and *H. albimacula* (Wood-Mason & de Nicéville, 1881), and designated the structure of the corpus bursae and papilla analis as additional characters for the diagnosis of this genus. According to them, the former is quite reduced and untraceable from the ductus bursae, while the latter is enormously large. The

female genitalia of *H. rarasana* completely conform to these character conditions (Fig. 22). However, the corpus bursae of *H. uedai* is rather strongly expanded and swollen (Fig. 21) like those of other general lycaenids. Hence it seems that the structure of the corpus bursae is not a suitable diagnostic character of *Horaga*.

The biogeographical relationship between *H. rarasana* and the new species, *H. uedai*, is also very interesting. The distribution of *H. rarasana* is confined to rather high mountains of Taiwan, so that it is completely segregated from *H. uedai*, which occurs in an inland area of the Asian continent (Fig. 23). However, *H. rarasana* appears to be most closely related to *H. uedai*, so that it is likely that *H. rarasana* has resulted from allopatric speciation like several other butterflies endemic to Taiwan (*e. g.*, Shirôzu, 1960; Hsu & Lin, 1994; Hsu, 1995). The immature stages of *H. rarasana* have been described and illustrated in detail by Hsu & Yang (1999) and Hsu (2002). The exclusive hostplant of this species is *Symplocos sumuntia* of Symplocaceae. If the new species is also found to feed on this plant or its allied species in Laos, it would provide further evidence of the close relationship.

Key to the species of the subtribe Horagina

In the subtribe Horagina, 15 species** including the present new species are so far known, namely *H. albimacula*, *H. amethysta* (H. H. Druce, 1902) (=*H. ciniata* (Hewitson, 1863)), *H. araotina* Evans, 1933, *H. bilineata* Semper, 1890 (=*H. natsumiae* Hayashi, 1984), *H. chalcedonyx* Fruhstorfer, 1914 (=*H. onyxitis* Fruhstorfer, 1914), *H. elizabethae* Schroeder & Treadaway, 2001, *H. lefebvrei* (C. & R. Felder, 1862), *H. onyx*, *H. pseudosyrinx* Schroeder & Treadaway, 2001, *H. rarasana*, *H. selina* Grose-Smith, 1895, *H. sohmai* Osada, 2001, *H. syrinx* (C. Felder, 1860) and *H. uedai* of the genus *Horaga*, and *R. amor* (Fabricius, 1775) of the genus *Rathinda* (Cowan, 1966; Eliot, 1986; Bridges, 1988; Osada, 2001; Schroeder *et al.*, 2001). Based on wing markings and genitalia, here I provide a key for the separation of the species of Horagina. Information on morphological characters for several species was obtained from the published descriptions and illustrations of Cowan (1966), Hayashi (1984), D'Abrera (1986), Eliot (1986), Seki *et al.* (1991), Corbet & Pendlebury (1992), Osada (2001) and Schroeder *et al.* (2001).

1. UpH lacking red submarginal markings and often with blue or violet scales. Un ground color more or less uniform and markings simple. Male genital falces usually asymmetrical, lacking central spines, not extending to bases of valvae and folded ventrally above valvae; if falces asymmetrical, left falx simple and tapered to apex, while right one flattened on dorsal surface or weakly furrowed along subapical to apical portions ..... 2 (*Horaga*)
— UpH with red submarginal lunules and no blue scales. Base of UnF and most of UnH intricately patterned with black and whitish on buff. Male genital falces symmetrical, very long, each with central spine, and curved forwards to bases of valvae, subapical to apical portions inwardly curled around and pointed rearwards ..... *Rathinda amor*
2. Wing markings on Un composed of white ground color and brownish post-discal band (M^1) 3
— Wing markings on UnF and UnH represented by dark ground color (brown or ochreous) and whitish post-discal band 4

**According to Osada (2001), it is quite possible that *H. amethysta isna* Corbet, 1941 is a distinct species, and the fact may be correct. However, I defer this treatment because I did not examine the types.

3. In male, anterior half of UpH covered with violet scales. Discocellular bar (D^1) on UnH obsolete. Post-discal band on UnH almost straight and parallel-sided throughout length. Submarginal band on UnH ochreous with orange tint···*H. rarasana*
— In both sexes, anterior half of UpH covered with powdered white scales. Discocellular bar on UnH distinct. Post-discal band on UnH somewhat zigzagged, broad anteriorly and gradually narrowed posteriorly. Submarginal band on UnH dark brown, occasionally suffused with ochreous scales at cells 2 and 3 ·····*H. uedai* sp. nov.
4. Outer 1/3 of UnH minutely mottled ash-gray and white·····*H. selina*
— Outer 1/3 of UnH not minutely mottled ash-gray and white·····5
5. UnF and UnH with subcostal white streak extending from base of each wing. UnH with heavily dark-ringed, white discal markings (M^1 and D^1), which differ slightly between both sexes ·····*H. lefebvrei*
— UnF and UnH lacking subcostal white streak extending from base of each wing. Discal markings on UnH not dark-ringed ·····6
6. UnH with large, rectangular, black spot on distal portion of discoidal cell ···*H. araotina*
— UnH with no black spot on distal portion of discoidal cell·····7
7. UnH post-discal band completely dislocated at vein 2, shifted inwardly in cell 1b+c and covered with metallic scales in cells 6–8·····8
— UnH post-discal band not dislocated at vein 2 and not covered with metallic scales in cells 6–8 ·····11
8. Male UpF extensively blue or violet, with regular blackish outer marginal borders. Un ground color ochreous brown. UnH lacking reddish inner submarginal band ·····9
— Male UpF lacking bluish area, at most only blue scales sparsely frosted on basal half of cells 1a and 1b+c. Un ground color dark brown, grayish basally. UnH with reddish inner submarginal band·····10
9. In male, UpF and UpH uniformly dark purplish blue. White discal patch on UpF much more reduced. In male genitalia, valva slender and evenly tapered to apex ·····*H. amethysta*
— In male, UpF brilliant cobalt blue tinged with violet in a side light, UpH lustrous azure. White discal patch on UpF well developed. In male genitalia, valva broad and abruptly tapered to apex ·····*H. sohmai*
10. UpH evenly blackish-brown, lacking purple scales. In male, second sexual brand absent from wings. Male genitalia very long and slender; falces asymmetrical ·····*H. bilineata*
— Male UpH extensively purple. In male, second sexual brands present on anterior portion of UpH and along vein 1b of UnF. Male genitalia short and stout; falces almost symmetrical·····*H. elizabethae*
11. Post-discal white band on UnH obsolete and thin, rather even in width, not expanding to costa. UpF dark brown, with a white discal patch. Male UpF without brand along vein 1b·····12
— Post-discal white band on UnH clear and broad, usually expanding to costa, but occasionally blackened at middle. UpF dark brown, with basal bluish area and white discal patch. Male UnF with oval, pale yellowish orange brand along vein 1b ·····13
12. UpH with blue areas in both sexes. In male genitalia, vesica of phallus not studded with minute teeth·····*H. chalcedonyx*
— UpH lacking blue areas in male. In male genitalia, vesica of phallus studded with minute teeth ·····*H. albimacula*
13. Usually slightly smaller, with more rounded wings. Up violet blue in male, usually

duller and dingier in female. White discal spot on male UpF usually larger. On UnF, post-discal white band or dark line along outer margin of white band always reaching costal margin, the white band broad in each locality. Un ground color brown. In male genitalia, socius rather rounded at apex; valva basally truncated, usually but not invariably with distinct tooth mid-way along ventral margin; aedeagus stout ..... *H. onyx*

— Slightly larger, male F apex pointed and outer margin straighter. Up bright, clear blue in male, more purple in female, but not so dingy as in *H. onyx*. Post-discal white spot on male UpF smaller. On UnF, post-discal white band or dark line along outer margin of the band usually not reaching above vein 7, but often extending to costal margin in Malayan, Sumatran and Bornean races (*H. syrinx*), of which the white band becomes extremely narrowed. Un ground color more ochreous than in *H. onyx*. In male genitalia, socius angulated at apex; valva basally of uniform width, ventral margin simple; aedeagus slim 14

14. White discal spot on male UpF somewhat elliptical or deformed, its outer margin often broken by blackish ground color extending along veins. Bluish area on male UpF occupying at least basal 2/3 of cells 1a and 1b+c (or also discoidal cell), and represented by densely frosted scales. Post-discal white band on UnF usually surrounded by dark edge, its inner margin almost straight or weakly swollen inwardly. In male genitalia, socius smaller; valva rather short and broad, distal 1/4 strongly curved through almost 80° or more ..... *H. syrinx*

— White discal spot on male UpF more square. Bluish area on male UpF restricted to central portion of cells 1a and 1b+c, and represented by sparsely frosted scales. Post-discal white band on UnF not surrounded by dark edge, its inner margin weakly concave. In male genitalia, socius larger; valva long and slender, distal 1/3 tapered to tip and weakly curved through about 30°. Female unknown. ..... *H. pseudosyrinx*

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摘　　要

ミツオシジミ属の 1 新種およびミツオシジミ亜族の種の検索表 (鱗翅目, シジミチョウ科, ミドリシジミ族) (矢後　勝也)

ラオス北東部のPhoo Panから発見された大型のミツオシジミ属 *Horaga* の 1 種ウエダミツオシジミ *H. uedai* を記載した. 種名は標本を所蔵していた上田俊介氏に献名されたものである. 本種は台湾に産するララサンミツオシジミ *H. rarasana* Sonan, 1936 に一見類似するが, 1) 雄の後翅表面は紫色部を欠き, 雌雄共に後翅表面の前半部は霜降り状の白色鱗で覆われる, 2) 前翅裏面の M^1 条がより強く湾曲する, 3) 後翅裏面の M^1 条が不規則に湾曲する, 4) 後翅裏面の D_1 条が明瞭, 5) 後翅裏面の亜外縁帯 (E3) は濃茶色 (ララサンミツオシジミは黄褐色), などの違いが見られる. また雌雄交尾器にもいくつかの形態的差異が認められる. 本種とララサンミツオシジミは, 1) 体サイズ (翅) が著しく大型化する, 2) 裏面地色は白色で M^1 条が濃茶色となる, などの諸点で同属の他種と比較して特殊化している. 特に後者の形質状態は同亜族だけでなく近縁の他亜族の種にも見られない顕著な新形質共有とみなされることから, おそらく両種は互いに姉妹群を構成するものと考えられる.

ミツオシジミ属の中でも特に変わった裏面斑紋を持つ台湾の固有種ララサンミツオシジミは，大陸その他の熱帯地方に産する本属の他種において，これに類似する種はこれまで全く知られていなかった．今回のウエダミツオシジミの発見により，本種はこの新種との共通祖先から台湾と大陸との分断による異所的種分化の結果生じたものと推測された．なお，ララサンミツオシジミの幼生期はすでに報告されており，ハイノキ科ハイノキ属の *Symplocos sumuntia* が食樹として記録されている (Hsu & Yang 1999; Hsu, 2002)．もしウエダミツオシジミも *S. sumuntia* またはその近縁種を食していれば，上記の推測をさらに強く支持する証拠になりうるであろう．

最近のミツオシジミ属の研究で，Sidhu & Rose (1997) がミツオシジミ *H. onyx* (Moore, 1858) とヒメミツオシジミ *H. albimacula* (Wood-Mason & de Nicéville, 1881) の 2 種のみの雌交尾器を調査し，交尾嚢 (corpus bursae) と肛乳頭 (papilla analis) の特徴を本属に有効な診断形質として新たに付け加えた．前者では著しく減退し，交尾管 (ductus bursae) との境目が不明瞭となること，後者では極端に大型化することを挙げている．しかしながら，ウエダミツオシジミの交尾嚢は大きく膨らみ，交尾管との境目が識別できるなど，むしろ他のシジミチョウ科の種と同様の特徴を備えている．このことから，Sidhu & Rose が意味する交尾嚢の形質状態は，必ずしもミツオシジミ属の適切な診断形質とは言えないことが明らかになった．

ミツオシジミ亜族 Horagina はミツオシジミ属とインドミツオシジミ属 *Rathinda* の 2 属から構成され，前者では今回記載されたウエダミツオシジミを含めて 14 種が，後者では 1 種が知られている．これまで本亜族全体の種を網羅した検索表は，Cowan (1966) 以降，筆者の知る限り新たに改訂されていない．以後現在までに，いくつかの追加種や種レベルでの分類学的変更が見られることから，翅や交尾器などの形態に基づいた本亜族の種の新たな検索表を合わせて示した．

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